[From the Richmond, Va., *Times-Dispatch*, February 14, 20, 1904.]

THE FIRST MARINE TORPEDOES WERE MADE IN RICHMOND, VA., AND USED IN JAMES RIVER.

Despite the Study of this Method of Warfare, More was Accomplished by the Confederate States of America than has been Accomplished for Many Years Since.

Colonel Richard L. Maury, a son of Commodore Matthew Fontaine Maury, has written for the *Times-Dispatch* an extremely interesting article on the invention and use of torpedoes, in which his father was the pioneer, and to the perfection of which he, himself, and other brave naval officers of the Confederacy devoted themselves with all the abandon which a devotion to a cause for the cause's sake can evoke. The interest caused by the destruction of Russian vessels by means of torpedoes gives increased interest to the article which is printed in full below:

The wonderful achievements of Japan, with her ironclad rams and torpedoes, should be specially interesting to your readers, because of the fact that these mighty engines of modern war, as successful appliances, had their origin in Virginia, were designed in Richmond and were first successfully used in the waters of James river. With them continually developed and improved by the fertile brain of her many clever officers, and by them operated with a daring and self-sacrifice never equalled, the Confederate navy totally revolutionized naval warfare, and, though barren of resources, of shops, machinery and experienced mechanics fully to avail of the many improvements and inventions they made, yet with her novel system of torpedoes accomplished more in her several years than with all the great advancement of scientific knowledge, improvements in mechanical construction and familiarity with electrical force during subsequent years, other nations have been able since to do.

In 1865 the Secretary of the United States navy reported to Congress that the navy had lost more ships during the war from Confed-

erate torpedoes than from all other causes combined. Scharf's *History of the Confederate States Navy* gives as an incomplete list of forty, showing at one time ten were destroyed in less than three weeks, and General Rains, chief of the army torpedo department, says that the total number was fifty-eight, a number far in excess of what all other nations combined, with all their modern improvements and appliances, have effected, during the forty years since passed.

The first ironclad ram in actual conflict was the immortal *Virginia*, victoriously fought in Virginia waters, constructed in Virginia according to the design of Lieut. John M. Brooke, a Virginian, born near Fredericksburg, now an honored professor at the V. M. I. Her great achievement was her victory in Hampton Roads, especially her defeat of the Federal ironclad, an invention not of a naval officer or of an American, whereby the government at Washington was so alarmed, that preparation were made to the close the channel of the Potomac. The *Monitor* was ordered to be careful of herself, which she was, twice refusing the Virginian's offered battle, or to leave the protections of the guns of the fort, and the Secretary of the Navy, ignoring the "first army on the planet," and a navy as powerful as any afloat, called frantically upon a civilian of New York for protection, asking him to name his own price to destory this Confederate terror, designed by Brooke and fought by Buchanan. Tatnall, Catesby Jones, Robert D. Minor, J. Taylor Wood, Hunter Davidson, Charles Sims and many another gallant Confederate.

Were Made Here.

Torpedoes as a successful weapon in actual war were introduced into the Confederate navy by Captain Mathews F. Maury, also of Fredericksburg, and first placed by him in James River.

Hardly had he arrived in Richmond in April, 1861, in response to Virginia's call to her sons to come to her assistance, that his thoughts were turned to the realization of this means for the defense of the exposed rivers and harbors of Virginia and the South. Penetrated as the country was by innumerable navigable waters, and absolutely without vessels to defend them, he urged that the most effective way to keep off the enemy was to mine the channelways, and blow up by means of electricity when he attempted the passage.

At this time there was nothing save a few shore batteries to prevent any ship bold enough to run past them and ascend the river, shelling Richmond or any other water-side town in the South.

There was much prejudice against, or lack of appreciation of, this undeveloped system of defense by many of the Confederate authorities, who considered it ineffectual and unlawful warfare, but Captain Maury, undeterred by the lack of official support and opposition of many friends, proceeded at once to demonstrate its sufficiency as best he could without the use of proper mechanical resources.

His trial experiments to explode under water were made with minute charges of powder and submerged in an ordinary washtub in his chamber at the house of his cousin, Robert H. Maury, on Clay street, and the tank for actual use, with their triggers for explosion and other mechanical appliances for service, were made by Talbott and Son, on Cary street, under their ready and intelligent direction.

In the early summer of 1861 the Secretary of the Navy and the chairman of the Naval Committee of Congress and others, were invited to witness an explosion in James river at Rocketts. The torpedo was a small keg of powder, weighted to sink, fitted with a trigger to explode by percussion, to be fired, when in place, by a lanyard. The *Patrick Henry* gig was borrowed; Captain Maury and the writer got aboard with the torpedo, and were rowed to the middle of the channel just opposite to where the wharf of the James River Steamboat Company now is, whereon the spectator stood; the torpedo was carefully lowered to the bottom, taking great care not to strain upon the trigger, which was at full cock; the lanyard loosely held on board. The boat pulled clear, and the writer pulled the lanyard. The explosion was instantaneous; up went a column of water fifteen or twenty feet; many stunned or dead fish floated around; the officials on the wharf applauded and were convinced, and shortly after a naval bureau of "coast harbor and river defense" was created, and Captain Maury placed at its head with abundant funds for the work, and the very best of intelligent, able and zealous younger naval officers for assistants.

Mined the River.

In a month or two he had mined the channel of the river just opposite Chaffin's Blluff, with fixed torpedoes to be exploded by contact, having then no insulated wire with which to explode by electricity, and during that summer and fall several attempts with floating torpedoes were made against the Federal squadron at Fortress Monroe, one of which he personally directed (July, 1861); another

(October, 1861), by one of his skillful associates, Lieutenant Robert D. Minor, also of Fredericksburg.

He thus describes them:

"These torpedoes were in pairs, connected together by a span 500 feet long."

The span was floated on the surface by corks, and the torpedo barrels, containing 200 pounds of powder, also floated at the depth of twenty feet, empty barregas, painted lead color, so as not really to be seen, serving for the purpose.

The span was connected with a trigger in the head of each barrel, so set and arranged that when the torpedo, being let go in a tide way under the bows and athwart the hawse had fouled, they would be drifted alongside, and in so drifting tauten the span, and so set off the fuse, which was driven precisely as a ten seconds shot fuse, only it was calculated to burn fifty-four seconds, because it could not be known exactly in which part of the sweep along tide the strain would be sufficient to set off the trigger. The torpedoes were launched at three fine frigates, the *Minnesota*, the *Roanoke* and the *Cumberland.*

Finding that they all missed, I attributed it to the fact that such a fuse could not burn under a pressure of twenty feet of water. The conjecture was confirmed by experiment. The fuse could burn very surely at the depth of fifteen feet, never at twenty feet.

Some time afterwards those torpedoes were discovered by the enemy. Spans, barrels and barregas were soon got up, and carried off as relics.

The enemy prevented any further attack in this way by dropping the end of his lower studding sail boom in the water "every night, anchoring boats or beams ahead."

Grew in Favor.

To obtain insulated wire an agent was sent to New York in secret, but failed, and as there was neither wire factory or insulating material in the South, the difficulties of preparing electrical torpedoes to which he attached the greatest importance and greatly preferred, seemed insuperable, until by a remarkable coincidence, in the following spring, it happened that the enemy attempting to lay a cable across Chesapeake Bay to Fortress Monroe were forced to abandon the attempt and left the wire to the mercy of the waves, which cast

it up on the beach near Norfolk, where by the kindness of a friend, it was secured for Captain Maury's uses. With part of this he was enabled to mine James river below the obstruction with electrical torpedoes, which destroyed every Federal vessel that attempted to pass them, and kept their powerful fleet at bay during the entire war, and with part to enable other southern harbors to be similarly protected.

Meantime, torpedoes were rapidly growing in public favor, new designs and improvements, suggested by experience, were multiplied by the active brain of the many clever young naval officers, whose withdrawal from the United States navy left it paralyzed for years, and torpedoes of all kinds were left to be found in all our waters whenever Federal ships appeared.

Lieutenant Beverly Kennon, of Virginia, set them afloat in the Potomac, and later, was instrumental, he said, in procuring the first actual destruction of the *Cairo* in Yazoo river by Masters McDaniel and Ewing, with a ground torpedo—a demijohn filled with powder and fired with a trigger by a string leading to the operator hidden on the bank. General Rains, chief of the army torpedo bureau, adopted the beer keg, filled with powder, and fitted with a percussion primer at each end, as the best form, and set hundreds of them afloat, to be carried by current and tide against the enemy's vessels below. Captain Francis D. Lee, of General Beauregard's staff, recommended the star torpedo—*i. e.*, a torpedo set upon the end of a twenty-foot spar, rigged upon the bow of a boat, to be fired by impact upon the sides of the vessel attacked; and with Captain Maury designed and constructed, at his own expense, a semi-submarine torpedo, called a "David," rigged with a star torpedo, with which at Charleston, Lieutenant Glassell struck and permanently disabled the new ironside, the most powerful vessel then afloat. Shortly after, and with a submarine torpedo boat, the first ever used, designed and constructed with his private means by Mr. Horace L. Hundley, of New Orleans, but then living in Mobile, who was drowned in her, Lieutenant Dixon, of Mobile, of the army, with unsurpassable courage, attacked the Federal steamer *Housatonic*, and sunk her almost instantaneously; but Dixon and daring crew, and his pioneer submarine torpedo boat, all went to the bottom with their victim, where divers found them after the war lying side by side.

And John Maxwell, of Richmond, with matchless intrepidity,

with his own hands handed a clock torpedo aboard a vessel at City Point, which blew her to pieces in a few moments, killing many and spreading consternation all around.

Went Abroad.

By the fall of 1862 the importance of Captain Maury's work and its capabilities had become so highly appreciated that it was deemed best that he should go to England, that he might have every opportunity for the development and improvement afforded by the workshops and laboratories and facilities for experiment and construction. Accordingly he was ordered abroad in this service, where he remained, pursuing his researches, perfecting his valuable invention with great success, constantly reporting progress to the Navy Department at home for the instruction of the torpedo workers there, until just before the close of the war, which found him at sea, en route for home, with a most powerful, perfect and complete equipment of electrical torpedo material, perhaps never since equalled.

His valuable assistant in the James river defense was Lieutenant Hunter Davidson, who succeeded him in that charge, which he managed with unequaled skill until the end with electrical torpedoes, which, he says, he himself put down, Captain Maury's having been washed out by a severe freshet after he had gone. His operation crippled and destroyed two Federal vessels—the only ones, he says, destroyed by electrical torpedoes during the war. With a torpedo boat of his own construction and design, constructed here in Richmond, rigged with a spar torpedo, he most courageously ventured a hundred miles and more down the river, into the enemy's lines, and rammed the frigate *Minnesota*, lying off Newport News. He exploded the torpedo, but the charge was too small, and but little damage was done or suffered.

Gallant Attacks.

Besides these, numerous gallant attacks were made with torpedoes everywhere, despite the danger and death which often accompanied their use, and many of the older officers, who at first regarded them with disfavor, as Captain Parker said he did, were now torpedo mad. "Commodore Tucker and I," he said, "had torpedo on the brain." The destruction of the enemy's vessels increased so rapidly—in the last three weeks of the war ten were destroyed—that they were

compelled to adopt our system, although at first denouncing it as barbarous and heathenish.

Captain Maury's experience and studies had now made him the chief authority upon the new weapon, so that when after the war he retuned to Europe, he was requested by the Emperor Napoleon to explain to him its merits. He did so, and for the Emperor's benefit had an explosion in the Seine at St. Cloud, the Emperor himself firing the charge. Subsequently, by request of the several governments, he instructed and imparted his knowledge of torpedoes and their use to representatives of France, England, Russia, Holland and Germany, all of whom adopted his plan, and made the torpedo one of the chief branches of their armament. But, as yet with every advantage, with earnest desire and constant effort to excel, none have done as well with these Virginia weapons as did the Confederate States navy forty years ago.

[An editorial in the *Times-Dispatch*, February 20, 1904, elicited the following communication which definitely settles the question in issue.—Ed.]

Sir,—Your answer this morning to a recent article in the New York *Tribune* (which I have not seen), concerning torpedoes, stating that they were "only successfully employed two or three times by the Confederates," suggests additional facts in further refutation of a statement utterly erroneous. Two or three citations to the veritable records of the time abundantly show, save to those so blind that they will not see, that the writer of the article in the *Tribune* is altogether mistaken.

No matter when or by whom the idea of using torpedoes as weapons of war first occurred, and undoubtedly it has occurred to many, in one form or another—all practical for actual use—ever since the "engineer was hoist with his own petard," it cannot be successfully denied now that their use was introduced with the Confederate navy here in Richmond by Captain Matthew F. Maury, of Virginia, and that through his efforts and with the hearty and skillful assistance of many of his younger brother officers, who had been the very flower and life of the old navy, and were the best of sailors and patriots in the Confederate service, torpedoes were first successfully utilized in actual war by the Confederate navy, whose example in this and other respects has been imitated by every maritime nation.

The writer of the *Tribune* article in stating torpedoes were "Suc-

cessfully employed but two or three times during the Confederate war" shows great ignorance.

They were successfully employed every hour of every day in every river and harbor in the South from the time Captain Maury first placed them in James River (1861) until the end of the war, in that their presence, successfully kept the Federal fleet from entering our many undefended rivers and harbors from Virginia to Texas. It suggested that a torpedo which successfully keeps away many ships is far more successfully used than if it had been successfully exploded and destroyed one.

But such was by no means the only successful use of Confederate torpedoes, for they were also successfully employed in the actual destruction of more (Federal) ships than all nations combined have since been able to effect in all the forty years since passed, and with all their improved modern facilities, knowledge and appliances.

Admiral Bradford, U. S. N., gives a list of thirty-four United States vessels destroyed or injured by Confederate torpedoes.

Lieutenant Scharf, C. S. N. gives a list of forty. General Rains, C. S. A., says that the number was fifty-eight. No matter which is correct, for the smallest number of the United States admiral is more than sufficient to refute the "two or three" of the *Tribune's* writer, and what will he say to the statement of the United States Secretary of the Navy in his report to Congress in 1865, "that the navy had lost more vessels from Confederate torpedoes than from all other causes combined?"

Richard L. Maury,
Colonel 24 Virginia Infantry, Pickett's Division.